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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,763	01/12/2004	Qi Xiang	039153-0684 (H1719)	9627
34083	7590	12/28/2005	EXAMINER	
AMD-MKE C/O FOLEY LARDNER 777 EAST WISCONSIN AVENUE MILWAUKEE, WI 53202-5367			MITCHELL, JAMES M	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/755,763

Applicant(s)

XIANG ET AL.

Examiner

James M. Mitchell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/10/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to applicant's amendment filed September 9, 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-16 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krivokapic et al. (U.S. 6,855,583).

Krivokapic (Fig. 14-17) discloses:

(cl. 1, 10, 21) a method of forming a fin-shaped channel region, the method comprising providing a second layer (1205) above a first layer (1210); providing a trench (1305) in the layer; providing a strained semiconductor layer (1505) above the second layer and within the trench /aperture(Fig. 14), the trench being associated with the fin-shaped channel region; removing the strained semiconductor layer from above the first layer (Fig. 14-Fig. 15), thereby leaving the strained semiconductor layer within the trench (Fig. 16); and removing the first layer to leave the strained semiconductor layer and form the fin-shaped channel region (Fig. 16) [*forming strained by epitaxy; Col. 5, lines 35-43*];

(cl. 2, 13) an oxide/gate dielectric (1605) adjacent side walls of fin;

(cl. 3) and gate formed over the oxide material (Col/ 6, Lines 35-39);

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- (cl. 4) where fin is silicon (Col. 5, Lines 35-43);
- (cl. 6) with the removing step is a polishing step (Col. 5, Lines 35-43)
- (cl. 7, 8, 16) removing using an etching step and mask (CLM 1 of Krivokapic);
- (cl. 12) where strained material is provided by epitaxy (Col. 5, Lines 35-43);
- (cl. 14) where strained material is above the first layer;
- (cl. 15) with strained material removed by polishing (Fig. 14-15)
- (cl. 23) wherein removing step is dry etching (Col. 6, Lines 47-48)
- (cl. 24) where the gate includes polysilicon (CLM 8 of Krivokapic)

With respect to first and second layers being insulations and compound semiconductors, such as SiGe, or change in material would have been obvious, since it has been held that to be within the general skill of a worker in the art to select known material on the basis of its suitability for intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416 (CCPA 1960).

Furthermore with respect to the aspect ratios of claims 9 and 22, applicant has not disclosed that the limitation is for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. As such, the size dimension would have been obvious since it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984),

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cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) .

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jmm

December 2, 2005


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800